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DESCRIPTION OF INVENTIONS
with AUTHOR'S CERTIFICATE
SU 510942 A
IPC: F 16 D 3/56

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Date of publication [claims only]: September 30, 1987, Bulletin No. 36
Inventors: A. I. Kravchenko et al.
Title in Russian of the object of the invention:
KOMPENSIRUYUSHCHAYA MUFTA

FLEXIBLE COUPLING

Flexible [compensating] coupling or union, connecting two coaxial half-couplings, having fingers and pusher dogs [driver carriers], connecting the adjacent fingers of different half-couplings with the help of resilient hinges, c h a r a c t e r i z e d in that in order for the axial rigidity and for the angular rigidity to be reduced, and in order for the loading of the hinges to be reduced, the fingers are situated in a plane, which is perpendicular to the axis of the coupling [joint].

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The invention pertains to the area of machine-building, and may be used for the connection of two coaxial shafts in different mechanisms.

A flexible or compensating coupling [joint], comprising two coaxial half-couplings, having fingers and pusher dogs [driver carriers], connecting the adjacent fingers of different couplings with the help of resilient hinges, is known.

It is an object of the invention to reduce the axial and the angular rigidity of the coupling as well as to reduce the loading of its hinges.

To this end, the fingers in the proposed coupling are situated in a plane, which is perpendicular to the axis of the coupling.

Fig. 1 shows a view in the axial direction of the proposed compensating or flexible coupling,

Fig. 2 shows a side view of the proposed compensating or flexible coupling;

Figs. 3 thru 8 show various variants of the embodiment of the hinges.

The compensating [flexible] coupling consists of two coaxial

half-couplings, 1 and 2, having fingers 3. The adjacent fingers of different half-couplings are pivoted to one another by means of pusher dogs [driver carriers] 4. The pivoted [hinged] unions 5 of the fingers 3 together with the pusher dogs 4 may have different structural design (see Figs. 3 thru 8).

When a moment is transmitted by means of the coupling, the deformations of the adjacent pusher dogs have different algebraic signs, namely one pusher dog operates while subjected to compressive stress while the other pusher dog operates while subjected to tensional stress. Such a coupling is a reversal coupling [joint].

The sharp bend of the geometric axis of the shaft line, i.e. the angular relative displacement of the shafts brings about a coaxial twisting of the hinges, which is predicated upon a small displacement strength while the different algebraic sign of the deformations of the pusher dogs brings about an internal compensation of the angels of the rotation, which, in its turn, does not bring about an additional relative rotation of the shaft about their axes. In such a way, one of the basic requirements - namely constancy of the angular velocity of the driving and the driven shafts - is satisfied.

In the case of a relatively mutual axial displacement of the shafts, the basic kind of deformation of the hinges is the coaxial twisting. Hence, the axial rigidity of the coupling is not high. Hence, the axial rigidity of the coupling will not be

high. The condition of constancy of the angular velocity is also met in this case.

The coupling can be used in a drive as an individual element, as well as in combination with such a coupling, forming a Cardan transmission, as well as in combination with other kinds of couplings.

US Department of Commerce/USPTO/STIC/Translations Branch
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The USPTO Translator from G E R M A N & Germanic languages
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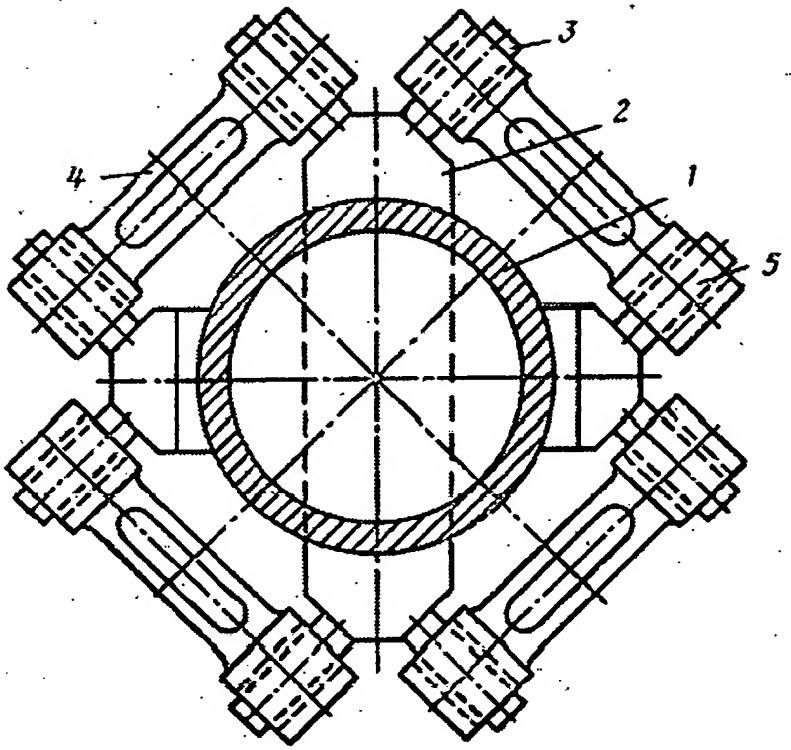
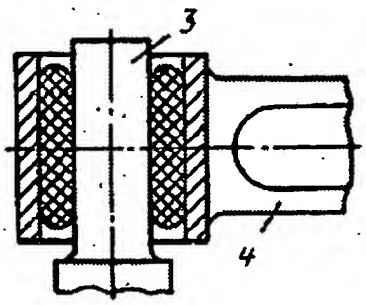
(19) SU (11) 510942 A



Фиг.1



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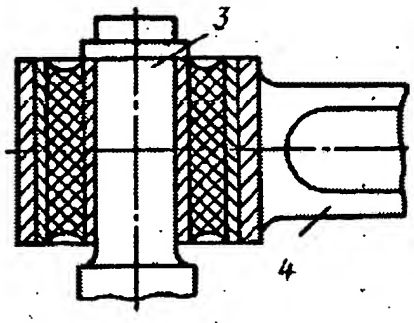

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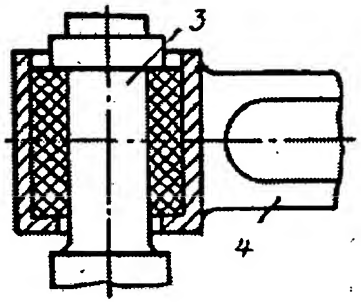

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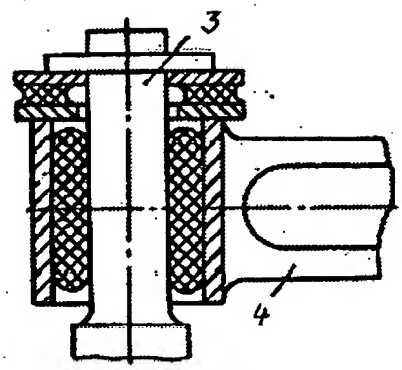

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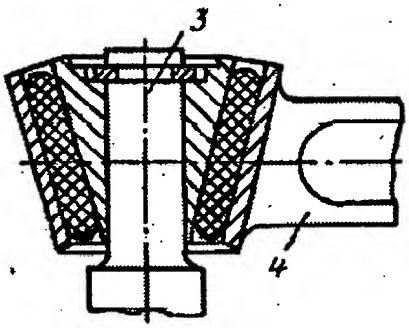

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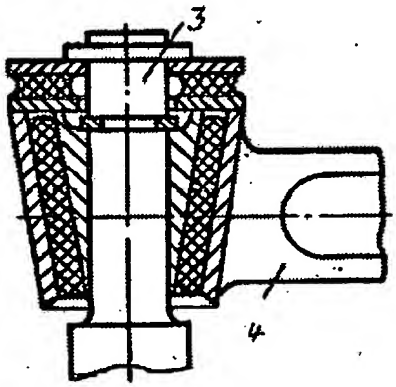

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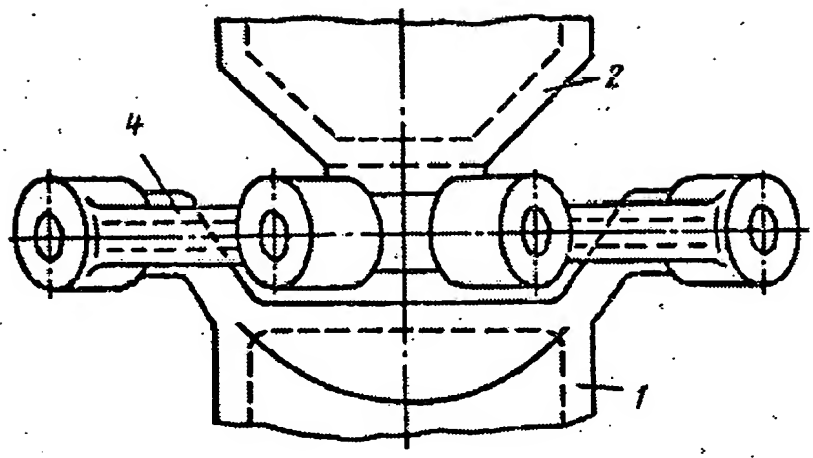

Фиг. 2